News In Health

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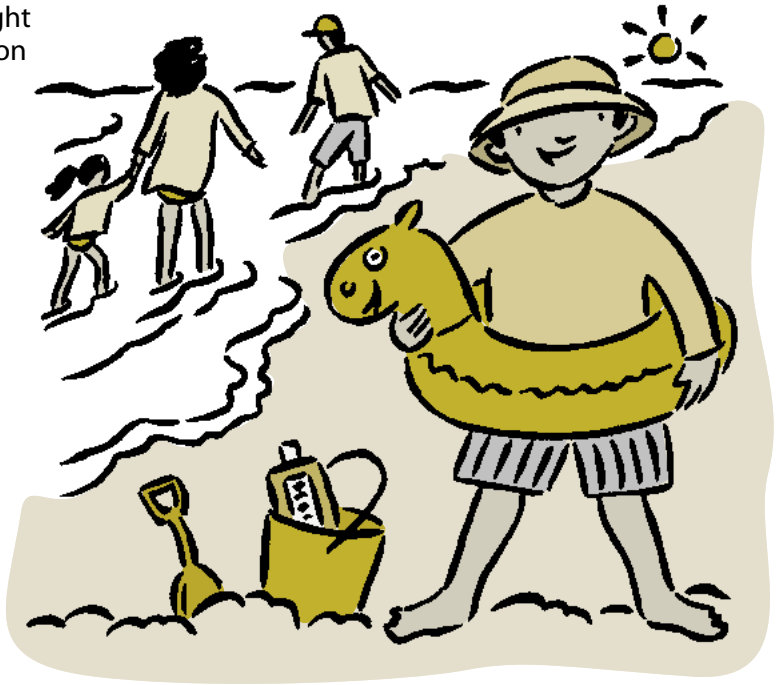
Safer Fun in the Summer Sun

The ABCDEs of Skin Cancer

Any diagnosis of cancer can be frightening—including skin cancer, the most commonly diagnosed cancer in the United States. However, skin cancer accounts for less than 1 percent of all cancer deaths; 85% to 95% of all cases are cured. Prevention and early detection are the most important weapons in the battle against skin cancer. Continuing research is making them ever more effective.

Skin cancer is strongly associated with exposure to ultraviolet (UV) radiation, part of the energy that comes from the sun (it also can come from artificial sources like sun lamps and tanning booths). UV radiation is made up of two types of rays, called UVA and UVB rays. UVB rays are more likely than UVA rays to cause sunburn, but UVA rays pass more deeply into the skin. Scientists have long thought that UVB radiation causes the skin damage that can lead to skin cancer and premature aging. They now think that UVA radiation may have these consequences, too.



According to NIH's National Cancer Institute, the cure rate for skin cancers could be nearly 100% if they were all brought to a doctor's attention before they had a chance to spread. There are three different types of skin cancer—**melanoma**, **basal cell carcinoma** and **squamous cell carcinoma**. It is particularly important to diagnose and treat melanoma early. Melanoma is the deadliest form of skin cancer, with 55,100 new cases and 7,910 deaths expected this year in the U.S. alone.

Melanoma usually begins as a mole. Twenty years ago, **dermatologists** noted that the typical warning signs of early melanoma follow an easy-to-remember formula:

- **A**symmetry—the mole is not a circle, but lopsided
- **B**orders—the mole has uneven or ragged edges
- **C**olor—the mole is not a uniform brown, but a mix of brown, black, red, blue, and white
- **D**iameter—the mole is wider than a pencil eraser

The dermatologists who devised that list now suggest adding "**E**," for "**E**volving."

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Definitions

Basal Cells
Small, round cells in the lower part (base) of the epidermis, the outer layer of skin.

Carcinoma
Cancer that begins in the skin or in tissues that line or cover internal organs.

Dermatologist
Doctor with special training in diseases and conditions of the skin, hair and nails.

Melanoma
A form of skin cancer that begins in melanocytes (cells that make pigment). Usually begins as a mole.

Squamous Cells
Thin, flat cells in the surface of skin, the lining of hollow organs in the body and the passages of the respiratory and digestive systems.

Inside News

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"An evolving lesion is one that changes size, shape or symptoms, such as itching or tenderness," Dr. David Polsky of New York University's Department of Dermatology explained.

The "E" captures a particular type of melanoma, called nodular, which often does not follow the original ABCs, Polsky said. Nodular melanoma is the most aggressive type of melanoma and accounts for 10% to 15% of all melanomas.

Polsky led a group suggesting the alphabetical expansion in a recent review published in the *Journal of the American Medical Association*. They cited a study of 125 patients with nodular melanoma in which 78% had noticed a significant change in their mole's appearance. Other studies support the idea that moles that change shape, color, or size are more likely to be melanoma.

While melanoma may be the most deadly type of skin cancer, both basal cell carcinoma and squamous cell carcinoma are far more common. Researchers estimate that 40% to 50% of people who live to age 65 will be diagnosed with one of these skin cancers. They can occur anywhere but are typically on the head, face, neck, hands, and arms. They grow more slowly than melanoma and rarely spread to other areas, but need to be treated as well.

Carcinomas can appear as small, smooth, shiny, pale or waxy lumps, or sometimes as a firm red lump. Some people develop a precancerous condition called actinic keratosis, a rough, red or brown scaly patch on the skin that may develop into squamous cell carcinoma. It usually occurs in areas that have been exposed to the sun, such as the face, the back of the hands and the lower lip.

Your overall chance of developing a skin cancer is related to your lifetime exposure to UV radiation. While most skin cancers appear after age 50, the sun's damaging effects begin at an early age. It's important to start sun protection in childhood to prevent skin cancer later in life. Check yourself regularly for new growths or other changes in your skin, and report any unusual growths to a doctor. ■

What You Need To Know About Skin Cancer:
www.cancer.gov/CancerInformation/WhatYouNeedToKnowAboutSkinCancer

What You Need To Know About Melanoma:
www.cancer.gov/cancerinfo/wyntk/melanoma

Wise Choices
Preventing Skin Cancer

- Avoid exposure to the midday sun, when your shadow is shortest (from 10 a.m. to 2 p.m. standard time or 11 a.m. to 3 p.m. daylight savings time).
- Wear protective clothing, such as sun hats and long sleeves, to block out the sun's harmful rays.
- Use sunscreen with a sun protection factor (SPF) of at least 15, reapplying frequently. But be careful not to let sunscreen encourage you to spend even more time in the sun.
- Do a simple skin self-exam regularly for anything unusual, like a change in the size, texture, or color of a mole, or a sore that does not heal. *See http://www.cancer.gov/cancertopics/wyntk/skin/page23 for guidelines.*

Questions
for your doctor

If you are diagnosed with skin cancer, here are some questions to ask your doctor:

- Exactly what kind of cancer do I have?
- What types of treatment are available?
- Are there any risks or side effects of treatment?
- Will there be a scar?
- Will I have to change my normal activities?
- How can I protect myself from getting skin cancer again?
- How often will I need a checkup?

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Keep it Cool in Hot Weather

Advice for Older People Applies to All

Older people are at high risk for developing heat-related illness because the body's ability to respond to summer heat can become less efficient with advancing years. Fortunately, the summer can remain safe and enjoyable if you use sound judgment.

Heat stress, heat fatigue, heat syncope (sudden dizziness after exercising in the heat), heat cramps and heat exhaustion are all forms of "hyperthermia," the general name given to a variety of heat-related illnesses. Symptoms may include headache, nausea, muscle spasms and fatigue after exposure to heat. If you suspect someone is suffering from a heat-related illness:

- Get the person out of the sun and into a cool place.
- Offer fluids like water, fruit and vegetable juices.
- Urge the person to lie down and rest, preferably in a cool place.
- Encourage them to shower, bathe or sponge off with cool water.

Heat stroke is especially dangerous and requires emergency medical attention. A person with heat stroke has a body temperature above 104° and may have symptoms such as confusion, combativeness, bizarre behavior, faintness, staggering, strong rapid pulse, dry flushed skin, lack of sweating or coma.

www.niapublications.org/engagepages/hyperther.asp
www.bt.cdc.gov/disasters/extremeheat/index.asp

Both lifestyle and general health can affect a person's chance of developing heat-related illness. Lifestyle factors that can increase risk include an extremely hot home, lack of transportation, overdressing and visiting overcrowded places. Health factors include:

- Age-related changes to the skin such as poor blood circulation and inefficient sweat glands.
- Heart, lung and kidney diseases, and any illness that causes general weakness or fever.
- High blood pressure or other conditions that require changes in diet (for instance, salt-restricted diets).
- Certain medications—including heart and blood pressure drugs, sedatives and tranquilizers—and combinations of medications. Continue taking prescribed medications and consult a doctor.
- Being substantially overweight or underweight.

To avoid heat illness, pay attention to weather reports. Older people, particularly those at special risk, should stay in an air-conditioned place on hot, humid days, especially when there's an air pollution alert in effect. Don't exercise or do a lot of activities when it's hot.

Make sure to dress for the weather. Natural fabrics like cotton can be cooler than synthetic ones. Light colors also reflect the sun and heat better than dark ones.

Remember to drink plenty of liquids on hot, humid days—mostly water or fruit and vegetable juices. Avoid drinks with caffeine or alcohol, which make you lose more fluids.

For free information on hyperthermia from NIH's National Institute on Aging, call 1-800-222-2225. ■

Wise Choices
If You Don't Have Air Conditioning

- Take a cool shower or bath.
- Create cross-ventilation by opening windows on two sides of the building.
- Keep windows open at night.
- Keep curtains, shades or blinds drawn during the hottest part of the day.
- Cover windows when they are in direct sunlight.
- Electric fans may help, but when the temperature reaches the high 90s, fans won't prevent heat-related illness.
- Go somewhere that's air-conditioned like the shopping mall, the movies, the library, a senior center or a friend's house. If you don't have a car or no longer drive, ask a friend or relative to drive you. Many towns or counties, area agencies, religious groups and senior citizen centers provide such services. If necessary, take a taxi. Don't stand outside waiting for a bus.
- Look for assistance programs that can provide help to seniors who qualify. ***If you think you can't afford an air conditioner***, call your electric company or your local area agency on aging (to find it, look in the telephone book or see the list under "Links" at the National Association of Area Agencies on Aging web site at www.n4a.org/). ***To find help paying electric bills to run an air conditioner***, call the National Energy Assistance Referral project toll-free at 1-866-674-6327, visit www.energynear.org or email energyassistance@ncat.org (include your city, county and state in your message).

Health Capsules

Vitamin E Results Disappoint

Vitamin E supplements don't protect healthy women against heart attacks and stroke, according to the latest results from the Women's Health Study, a long-term **clinical trial** funded by the National Heart, Lung, and Blood Institute (NHLBI) and National Cancer Institute (both part of NIH). The vitamin also had no effect on the most common cancers in women or on total cancers.

An estimated 13.5% of women in the U.S. take vitamin E supplements. Laboratory and animal research has suggested that vitamin E might reduce the chance of clogged and blocked arteries. **Observational studies** suggested that people who eat foods high in vitamin E or take supplements have a lower risk of heart disease. Although several clinical trials have found little **cardiovascular** benefit from vitamin E, these trials were not conclusive. The Women's Health Study aimed to look at the long-term effects of vitamin E among a large number of healthy women, studying 39,876 women age 45 years and older over an average of 10.1 years.

The study found that vitamin E didn't significantly affect major cardiovascular "events"—a combination of nonfatal heart attack, nonfatal stroke and cardiovascular death. There were findings that warrant further study, however. There was some reduction in cardiovascular deaths among women taking the vitamin. Women 65 and older taking vitamin E also had a decrease in heart attacks and cardiovascular deaths (but not strokes). Total deaths, however, were unaffected by vitamin E.

NHLBI director Dr. Elizabeth G. Nabel says women shouldn't rely on vitamin E supplements to prevent heart attack and stroke. "Instead," she said, "women should focus on well-proven means of heart disease prevention, including leading a healthy lifestyle and controlling risk factors such as high blood pressure and high cholesterol." ■

http://ods.od.nih.gov/factsheets/vitamine.asp

Genes Affect Arsenic Response

Arsenic contamination is a health problem throughout the world, including parts of the U.S. But it affects some people more than others. An international study funded by NIH's National Institute of Environmental Health Sciences has found genetic differences that may explain why.

Arsenic, an odorless, nearly tasteless element, occurs naturally in the earth's crust, making its way into food and drinking water. In large doses, it can kill. It can also cause cancer and a range of other health problems.

Arsenic comes in different forms, and the body can metabolize, or process, these forms in different ways. In this study, researchers measured the arsenic compounds in the urine of 144 people who drink well water containing arsenic. They isolated their DNA to look at 3 particular genes known to be involved in processing arsenic compounds.

The researchers linked 3 changes in a gene called CYT19 with changes in the arsenic compounds in urine. They found that these differences were greatest in children between the ages of 7 and 11. There was no association in those over 18.

While this study doesn't prove these genetic changes are themselves responsible for differences in arsenic processing, it does establish a genetic link in arsenic processing during human development. Arsenic is widespread in nature, and arsenic compounds are also used to treat cancer in children. Understanding how the body processes arsenic may lead to safer, more effective therapies as well as better treatments for arsenic poisoning. ■

toxtown.nlm.nih.gov/text_version/chemical/arsenic.html

Definitions

Cardiovascular
Related to the heart and vessels carrying blood throughout the body.

Clinical Trial
A guided research study with human volunteers that aims to answer specific health questions.

Observational Study
Study in which researchers observe different groups of people to try to figure out what factors lead to different outcomes.

Featured Web Site
NIHSeniorHealth

nihseniorhealth.gov

Health information web site for older adults. Features large print, short, easy-to-read segments and simple navigation. A "talking" function reads the text aloud, and special buttons enlarge text or enable high contrast. *From the National Institute on Aging and the National Library of Medicine, both part of NIH.*